

2017 Annual Report  
Academic Year  
August 2016 – July 2017



San Diego   
Spine Foundation  
Established in 2006



FOSTERING EXCELLENCE IN SPINAL EDUCATION, RESEARCH AND OUTREACH



**Stacie Nguyen, MPH**  
Research Manager



**Pooria Hosseini, MD, MSc.**  
Research Fellow

## Publications and Presentations 2016-17

### Peer-Reviewed Publications: Adult

**Hosseini P, Mundis GM, Eastlack RK, Pawelek J, Nguyen S, Akbarnia BA:** Is There a Role for An Ultrasonic Bone-Cutting Device in Adult Spinal Deformity: A Safety and Reproducibility Study. *Shafa Ortho J.* 3(3), August 2016

Hamilton DK, Kanter AS, Bolinger BD, **Mundis GM Jr, Nguyen S, Mummaneni PV, Anand N, Fessler RG, Passias PG, Park P, La Marca F, Uribe JS, Wang My, Akbarnia BA, Shaffrey CI, Okonkwo DO;** ISSG: Reoperation Rates in Minimally Invasive, Hybrid and Open Surgical Treatment for Adult Spinal Deformity with Minimum 2-Year Follow-Up. *Eur Spine J.* 2016 Aug; 25(8): 2605-11

Sciubba DM, Scheer JK, Yurter A, Smith JS, Lafage V, Klineberg E, Gupta M, **Eastlack RK, Mundis GM, Protosaltis TS, Blaskiewicz D, Kim HJ, Koski T, Kebaish K, Shaffrey CI, Bess S, Hart RA, Schwab F, Ames CP, ISSG:** Patients with Spinal Deformity Over the Age of 75: A Retrospective Analysis of Operative Versus Non-Operative Management, *Eur Spine J,* 25(8):2433-41, August 2016

Scheer JK, **Mundis GM, Klineberg E, Hart RA, Deviren V, Burton DC, Protosaltis TS, Gupta M, Rolston JD, Bess S, Shaffrey CI, Schwab F, Lafage V, Smith JS, Ames CP, ISSG:** Recovery Following Adult Spinal Deformity Surgery: The Effect of Complications and Reoperation In 149 Patients With 2-Year Follow-Up, *Eur Spine J,* 25(8):2612-21, August 2016

Than KD, **Nguyen S, Park P, Chou D, La Marca F, Uribe JS, Vogel TD, Nunley PD, Eastlack RK, Anand N, Kanter AS, Mummaneni PV, Mundis GM, ISSG:** What Is the Effect of Open vs Percutaneous Screws on Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity? *Neurosurgery,* 63 Suppl 1:166, August 2016

Nunley PD, Fessler RG, Park P, Zavatsky JM, **Mundis GM, Uribe JS, Eastlack RK, Nguyen S, Chou D, Wang MY, Anand N, Kanter AS, Shaffrey CI, Mummaneni PV, ISSG:** How Do Case Type, Length of Stay, and Comorbidities Affect Medicare Diagnosis-Related Group Reimbursement for Minimally Invasive Surgery for Deformity? *Neurosurgery,* 63 Suppl 1:210, August 2016

Bakhsheshian J, Scheer JK, Gum JL, Hostin R, Lafage V, Bess S, Protosaltis TS, Burton DC, Keefe MK, Hart RA, **Mundis GM, Shaffrey CI, Schwab F, Smith JS, Ames CP, ISSG:** Impact of Poor Mental Health in Adult Spinal Deformity Patients with Poor Physical Function: A Retrospective Analysis with A 2-Year Follow-Up, *J Neurosurg Spine,* 19:1-9, August 2016

Smith JS, Ramchandran S, Lafage V, Shaffrey CI, Ailon T, Klineberg E, Protosaltis T, Schwab FJ, O'Brien M, Hostin R, Gupta M, **Mundis GM, Hart R, Kim HJ, Passias PG, Scheer JK, Deviren V, Burton DC, Eastlack R, Bess S, Albert TJ, Riew KD, Ames CP, ISSG:** Prospective Multicenter Assessment of Early Complication Rates Associated with Adult Cervical Deformity Surgery in 78 Patients, *Neurosurgery,* 79(3):378-88, September 2016

Hamilton DK, Kong C, Hiratzka J, Contag AG, Ailon T, Line B, Daniels A, Smith JS, Passias P, Protosaltis T, Sciubba D, Burton D, Shaffrey C, Klineberg E, **Mundis GM, Kim HJ, Lafage V, Lafage R, Scheer J, Boachie-Adjei O, Bess S, Hart R:** Patient Satisfaction after Adult Spinal Deformity Surgery Does Not Strongly Correlate with Health-Related Quality of Life Scores, Radiographic Parameters or Occurrence of Complications, *Spine (Phila Pa 1976),* [Epub ahead of print], September 2016.

Theologis AA, **Mundis GM, Nguyen S, Okonkwo DO, Mummaneni PV, Smith JS, Shaffrey CI, Fessler R, Bess S, Schwab F, Diebo BG, Burton D, Hart R, Deviren V, Ames C, ISSG:** Utility of Multilevel Lateral Interbody Fusion of The Thoracolumbar Coronal Curve Apex in Adult Deformity Surgery in Combination with Open Posterior Instrumentation and L5-S1 Interbody Fusion: A Case-Matched Evaluation of 32 Patients, *J Neurosurg Spine,* 21:1-12, October 2016

Rihn JA, Radcliff K, Norvell DC, **Eastlack RK, Phillips FM, Berland D, Sherry N, Freedman M, Vaccaro AR:** Comparative Effectiveness of Treatments for Chronic Low Back Pain: A Multiple Treatment Comparison Analysis, *Clin Spine Surg,* [Epub ahead of print], November 2016

Ferrero E, Vira S, Ames CP, Kebaish K, Obeid I, O'Brien MF, Gupta MC, Boachie-Adjei O, Smith JS, **Mundis GM, Challier V, Protosaltis TS, Schwab FJ, Lafage V, ISSG:** Analysis of An Unexplored Group of Sagittal Deformity Patients: Low Pelvic Tilt Despite Positive Sagittal Malalignment, *Eur Spine J,* 25(11):3568-3576, November 2016

## EDUCATE

Soroceanu A, Burton Dc, Oren JB, Smith JS, Hostin R, Shaffrey CI, **Akbarnia BA, Ames CP, Errico TJ, Bess S, Gupta MC, Deviren V, Schwab FJ, Lafage V, ISSG:** Medical Complications After Adult Spinal Deformity Surgery: Incidence, Risk Factors and Clinical Impact. *Spine Volume 41, Number 22, Pp 1718-1723, November 2016*

**Goldstein MJ, Bruffey J, Eastlack RK:** A New, Minimally-Invasive Technique for Direct Pars Interarticularis Osteosynthesis Using Cortical Screws and Spinous-Process Modular Link, *Spine (Phila PA 1976),* 41(23): E1421-E1424, December 2016

Panchal RR, Kim KD, **Eastlack RK, Lopez J, Clavenna A, Brooks DM, Joshua G:** A Clinical Comparison of Anterior Cervical Plates versus Stand-Alone Intervertebral Fusion Devices for Single-Level Anterior Cervical Discectomy and Fusion Procedures, *World Neurosurg,* [Epub ahead of print], December 2016

Uribe JS, Beckman J, Mummaneni PV, Okonkwo D, Nunley P, Wang MY, Jr GM, Park P, **Eastlack RK**, Anand N, Kanter A, Lamarca F, Fessler R, Shaffrey CI, Lafage V, Chou D, Deviren V, MIS-ISSG: Does MIS Surgery Allow for Shorter Constructs in the Surgical Treatment of Adult Spinal Deformity? *Neurosurgery*, 80(3):489-497, March 2017

**Akbarnia BA**: Art Is Long, Life Is Short: Lessons Learned in The Life of a Spine Surgeon. *Spine Deformity Journal*: Vol 5, Issue 2. Pps 83-85. March, 2017

Capoor MN, Ruzicka F, Schmitz JE, James GA, Machackova T, Jancalck R, Smrcka M, Lipina R, Ahmed FS, Alamin TF, Anand N, Baird JC, Bhatia N, Demir-Deviren S, **Eastlack RK**, Fisher S, Garfin SR, Gogia JS, Gokaslan ZL, Kuo CC, Lee YP, Mavrommatis K, Michu E, Noskova H, Raz A, Sana J, Shamie AN, Stewart PS, Stonemetz JL, Wang JC, Witham TF, Coscia MF, Birkenmaier C, Fischetti VA, Slaby O: Propionibacterium Acnes Biofilm is Present in Intervertebral Discs of Patients Undergoing Microdiscectomy, *PLoS One*, 12(4):e0174518, April 2017

Witiw CD, Fessler RG, **Nguyen S**, Mummaneni P, Anand N, **Blaskiewicz D**, Uribe J, Wang MY, Kanter AS, Okonkwo D, Park P, Deviren V, **Akbarnia BA**, **Eastlack RK**, Shaffrey C, **Mundis GM**, ISSG: Re-Operation After Long-Segment Fusions for Adult Spinal Deformity: The Impact of Extending the Construct Below the Lumbar Spine. *Neurosurgery*: {Epub Ahead of Print} May 3, 2017

**Mundis GM**, **Turner JD**, **Kabirian N**, **Pawelek J**, **Eastlack RK**, Uribe J, Klineberg E, Bess S, Ames C, Deviren V, **Nguyen S**, Lafage V, **Akbarnia BA**: Anterior Column Realignment Has Similar Results to Pedicle Subtraction Osteotomy in Treating Adults with Sagittal Plane Deformity. *World Neurosurg*. 2017 [Epub Ahead of Print]. May 27, 2017

**Mundis GM**, **Turner JD**, Deverin V, Uribe JS, Nunley P, Mummaneni P, Anand N, Park P, Okonkwo DO, Yang My, Bess S, Kanter AS, Fessler R, **Nguyen S**, **Akbarnia BA**, ISSG: A Critical Analysis of Sagittal Plane Deformity Correction with Minimally Invasive Adult Spinal Deformity Surgery: A 2-Year Follow-Up Study. *Spine Deformity J*, 2017, Jul; 5(4): 265-271



*Dr. Hosseini presents his award winning and award nominated rescrubbing project at IAMA in May 2017*

**Eastlack RK**, **Mundis GM**, Wang M, Mummaneni PV, Uribe J, Okonkwo D, **Akbarnia BA**, Anand N, Kanter A, Park P, Lafage V, Shaffrey C, Fessler R, Deviren V, ISSG: Is There a Patient Profile That Characterizes a Patient with Adult Spinal Deformity as a Candidate for Minimally Invasive Surgery? *Global Spine Journal* 1-6: DOI: 10.1177/2192568217716151, July 2017

## Peer-Reviewed Publications: Pediatric

Polly DW, Ackerman SJ, Schneider K, **Pawelek JB**, **Akbarnia BA**: Cost Analysis of Magnetically Controlled Growing Rods Compared with Traditional Growing Rods for Early-Onset Scoliosis in the U.S.: An Integrated Health Care Delivery System Perspective. *Clinicoeconomics And Outcomes Research* 2016: 8 457-465. September 2016

**Hosseini P**, **Pawelek JB**, **Mundis GM**, Yaszay B, Ferguson J, Helenius I, Cheung KM, Demirkiran G, Alanay A, Senkoylu A, Elsebaie H, **Akbarnia BA**: Magnetically-Controlled Growing Rods for Early Onset Scoliosis: A Multicenter Study Of 23 Cases with Minimum 2 Years Follow-Up. *Spine (Phila 1976p)* 2016 Sep 15;41(18):1456-62, September 2016

Upasani V, Parvaresh K, **Pawelek J**, Miller P, Thompson G, Skaggs D, Emans J, Glotzbecker M, GSSG: Age at Initiation and Deformity Magnitude Influence Complication Rates of Surgical Treatment with Traditional Growing Rods in Early Onset Scoliosis. *Spine Deformity Journal*. 2016 Sep;4(5):344-350

**Hosseini P**, Nnadi C, Rehah L, Repko M, Grevitt M, Aydinli U, Carl A, **Pawelek J**, Crandall D, **Akbarnia BA**: Analysis of Segmental Mobility Following a Novel Posterior Apical Short-Segment Correction for Adolescent Idiopathic Scoliosis. *Spine Volume 41*, Number 20, Pp E1223-E1229. October 15, 2016

Keskinen H, Helenius I, Nnadi C, Ferguson J, **Mundis GM**, **Pawelek J**, **Akbarnia BA**: Preliminary Comparison of Primary and Conversion Surgery with Magnetically Controlled Growing Rods in Children with Early Onset Scoliosis. *Eur Spine J*, October 2016, (10) Pp 3294-3300

Poe-Kochert C, Shannon C, **Pawelek JB**, Thompson GH, Hardesty CK, Marks CK, Marks DS, **Akbarnia BA**, McCarthy RE, Emans JB: Final Fusion After Growing-Rod Treatment for Early Onset Scoliosis: Is It Really Final? *J Bone Joint Surg Am*, November 2016, 98(22): Pp 1913-1917

Hill G, Nagaraja S, **Akbarnia BA**: **Pawelek J**, Sponseller P, Sturm P, Emans J, Bonangelino P, Cockrum J, Kane W, Dreher M, GSSG: Retrieval and Clinical Analysis of Distraction-Based Dual Growing Rod Constructs for Early Onset Scoliosis. *Spine* {Epub Ahead of Print} April 26, 2017

**Hosseini P**, **Pawelek JB**, **Nguyen S**, Thompson GH, Shah SA, Flynn JM, Dormans JP, **Akbarnia BA**, GSSG: Rod Fracture and Lengthening Intervals in Traditional Growing Rods: Is There a Relationship? *Eur Spine J.*, June 26, 2017

Kwan Kyh, Alanay A, Yazici M, Demirkiran G, Helenius I, Nnadi C, Ferguson J, **Akbarnia BA**, Cheung JPY, Cheung KMC: Unplanned Reoperations in Magnetically Controlled Growing Rod Surgery for Early Onset Scoliosis with A Minimum of Two-Year Follow-Up. *Spine* [Epub Ahead of Print]. June 27, 2017

## Book Chapters

**Mundis GM**, **Hosseini P**: Anterior Column Release for Adult Lumbar Scoliosis, Chapter 13, in *Adult Lumbar Scoliosis: A Clinical Guide to Diagnosis and Management*, Ed: Eric O. Klineberg (Springer, Cham, Switzerland), 2017



## Podium Presentations – Adult

Kim HJ, Diebo BG, Schwab FJ, LaFage V, **Mundis GM**, Shaffrey CI, Smith JS, Hart RA, Burton DC, Bess S, Ames CP, Klineberg EO, ISSG: Factors Associated with Complication-Free Patients in Adult Spinal Deformity Surgery: A Study of 301 Patients with 2-year Follow-up. 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016



Kim HJ, Bao H, Iyer S, Smith JS, Kelly MP, Gupta MC, Albert TJ, Protosaltis TS, **Mundis GM**, Passias PG, Klineberg EO, LaFage V, Ames CP, ISSG: Neurological Complications in Adult Cervical Deformity Surgery. 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016 and North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



LaFage R, Line B, Liabaud B, Schwab FJ, Smith JS, Gum JL, Ames CP, Hostin R, **Mundis GM**, Burton DC, Kim HJ, Bess S, Klineberg EO, LaFage V, ISSG: Orientation of the Upper Instrumented Segment Influences Proximal Junctional Disease Following Adult Spinal Deformity (ASD) Surgery. 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016 and North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Than DC, **Nguyen S**, Park P, Chou D, LaMarca F, Uribe JS, Vogel TD, Nunley PD, **Eastlack RK**, Anand Neel, Kanter A, Mummaneni PV, **Mundis GM**, ISSG: What is the Effect of Open vs Percutaneous Screws on Complications Among Patients Undergoing Lateral Interbody Fusion for Adult Spinal Deformity? 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016



Kim HJ, Iyer S, Schwab FJ, Protosaltis TS, Passias PG, Hostin R, **Mundis GM**, Deviren V, Shaffrey CI, Kebaish KM, Smith JS, Bess S, Ames CP, Klineberg EO, ISSG: Rates of Recovery and Outcomes after Neurologic Complications in Adult Spinal Deformity Surgery. 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016 and North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Scheer JK, LaFage R, Liabaud B, Schwab FJ, Smith JS, **Mundis GM**, Hostin R, Shaffrey CI, Ames CP, Burton DC, Kim HJ, Bess S, Gupta MC, LaFage V, ISSG: Under-Correction of Sagittal Deformities Based on Age-Adjusted Alignment Thresholds Leads to Worse HRQOL While Over-Correction Provides No Additional Benefit. 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016



**Mundis GM**, **Eastlack RK**, Mummaneni PV, Okonkwo DO, **Nguyen S**, Kanter A, Anand N, Park P, Nunley PD, Uribe JS, Zavatsky JM, Chou D, Deviren V, ISSG: Current MIS Techniques Fail to Optimize Spinopelvic Parameters in Patients with High Pelvic Incidence. 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016



Kim HJ, Diebo BG, Iyer S, Kelly MP, Sciubba DM, Schwab FJ, Lafage V, **Mundis GM**, Shaffrey CI, Smith JS, Hart RA, Murton DC, Bess S, Ames CP, Klineberg EO, ISSG: Thromboembolic Disease in Adult Spinal Deformity: Surgery: Incidence and Risk Factors in 737 Patients. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



*SDFS Leadership with 2017 Distinguished Visiting Professors. From left: Greg Mundis, Jr., Behrooz Akbarnia, Todd J. Albert, Bob Eastlack, past fellow Jay Turner and Juan Uribe*

Cassilly RT, Bess S, Line B, Soroceanu A, Lafage V, Klineberg EO, Ames CP, Burton DC, Gupta MC, **Mundis GM**, Hart RA, Hostin A, Kebaish KM, Kim HJ, Boachie-Adjei O, Schwab FJ, Shaffrey CI, Smith JS, ISSG: Obesity is Associated with Increased Major Surgery Including Implant Failure, Wound Problems and Return to Surgery: A Propensity Score Matched Analysis. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Liabaud B, Lafage R, Hart RA, Schwab FJ, Smith JS, Kim HJ, Hostin A, Passias PG, Ames CP, **Mundis GM**, Burton DC, Bess S, Klineberg EO, Lafage V, ISSG: Proximal Junctional Kyphosis (PJK) Can Be Predicted Following Adult Spinal Deformity (ASD) Surgery: Models Based on Regional Alignment Changes within the Fusion Area. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Elysee J, Lafage R, Line B, Schwab FJ, Smith JS, Obeid I, Hart RA, Gum JL, Ames CP, **Mundis GM**, Albert TJ, Bess S, Gupta MC, Lafage V, ISSG: The Uppermost Instrumented Vertebra Mechanical Loading Correlates with the Magnitude of Proximal Junctional Kyphosis in Adult Spinal Deformity Surgery. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Buckland AJ, Hart RA, **Mundis GM**, Sciubba DM, Lafage R, Errico TJ, Bess S, Vigdorichik J, Schwarzkopf R, Lafage V, ISSG: Risk of Total Hip Arthroplasty Dislocation after Adult Spinal Deformity Correction. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



**Saigal R**, **Mundis GM**, **Nguyen S**, **Bagheri A**, **Bagheri R**, **Eastlack RK**: Anterior Column Realignment: A Detailed Analysis of Neurologic Risk and Radiographic Outcomes. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016 and 2017 American Academy of Orthopaedic Surgeons Annual Meeting. San Diego, California, March 14-18, 2017



Lafage R, Scheer JK, Liabaud B, Schwab FJ, Smith JS, Passias PG, Hostin A, Ames CP, **Mundis GM**, Burton DC, Kim HJ, Bess S, Klineberg EO, Lafage V, ISSG: The Impact of Radiculopathy on Patients Reported Outcomes: A Propensity Matched Study on 386 Adult Spinal Deformity Patients with and without Leg Pain. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Kim HJ, Bao H, Iyer S, Smith JS, Gupta MC, Albert TJ, Protopsaltis TS, **Mundis GM**, Passias PG, Neuman BJ, Klineberg EO, Lafage V, Ames CP, ISSG: The Posterior Use of BMP-2 in Cervical Deformity Surgery Does Not Result in Increased Complications: A Prospective Multicenter Study. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Kim HJ, Bao H, Iyer S, Smith JS, Kelly MP, Gupta MC, Albert TJ, Protopsaltis TS, **Mundis GM**, Passias PG, Neuman BJ, Klineberg EO, Lafage V, Ames CP, ISSG: Cervical Deformity Surgery Does Not Result in Postoperative Dysphagia: A Prospective Cohort Study. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Smith JS, Shaffrey CI, Kim HJ, Neuman BJ, Klineberg EO, Schwab FJ, Lafage V, Lafage R, Scheer JK, Protopsaltis TS, Passias PG, **Mundis GM**, Hart RA, Deviren V, Bess S, Ames CP, ISSG: Three-Column Osteotomy for Correction of Cervical Deformity: Alignment Changes and Early Complications in a Multicenter Prospective Series of 24 Patients, Podium, North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Lafage R, Gum JL, Liabaud B, Schwab FJ, Smith JS, Ames CP, Hostin A, Shaffrey CI, **Mundis GM**, Burton DC, Hart RA, Bess S, Gupta MC, Lafage V, ISSG: Unfused Thoracic Spine Reciprocal Alignment Changes Following Adult Spinal Deformity (ASD) Surgery Can Be Predicted. North American Spine Society 31st Annual Meeting, Boston, MA, October 26–29, 2016



Chou D, Mummaneni P, Nunley P, Zavatsky J, **Eastlack RK**, Okonkwo D, Wang M, Park P, Uribe J, Anand N, Deviren V, **Akbarnia BA**, **Nguyen S**, **Mundis GM**: Treatment of The Fractional Curve of Adult Scoliosis with Circumferential Minimally Invasive Surgery (cMIS) Versus Traditional, Open Surgery: An Analysis of Surgical Outcomes. Global Spine Congress, Milan, Italy, May 3–6, 2017



Smith J, Line B, Bess S, Shaffrey C, Kim H, **Mundis GM**, Scheer J, Klineberg E, Hostin R, Gupta M, Daniels A, Kelly M, Gum J, Schwab F, Lafage V, Lafage R, Ailon T, Passias P, Protopsaltis T, Albert T, Daniel Riew K, Hart R, Burton D, Deviren V, Ames C: The Health Impact of Symptomatic Adult Cervical Deformity: Comparison to United States Population Norms and Chronic Disease States Based on the EQ-5D. Global Spine Congress, Milan, Italy, May 3–6, 2017



SCORE Fellows Research Day included research presentations from SDSF Fellows. From left: Behrooz Akbarnia, Bob Eastlack, Amrit Khalsa, Greg Mundis and Justin Ledesma

Smith J, Shaffrey C, Klineberg E, Lafage V, Schwab F, Lafage R, Kim H, Hostin R, **Mundis GM**, Gupta M, Liabaud B, Scheer J, Diebo B, Protopsaltis T, Kelly M: Complication Rates Associated with 3-Column Osteotomy in 82 Adult Spinal Deformity Patients: Retrospective Review of a Prospectively Collected Multicenter Consecutive Series with Minimum 2-Year Follow-Up. Global Spine Congress, Milan, Italy, May 3–6, 2017



**Mundis GM**, Gerling M, Park P, Mummaneni P, Fu KM, **Nguyen S**, Than K, Nunley P, Okonkwo D, Uribe JS, Fessler RG, Anand N, **Eastlack RK**, ISSG: The Impact of Revision Surgery on Patients Undergoing MIS Correction of Adult Spinal Deformity: A Multi-Center Study. SOLAS Annual Meeting, San Diego, CA, May 18–20, 2017



Kanter A, Park P, **Mundis GM**, Than K, **Nguyen S**, Uribe JS, Nunley P, **Eastlack RK**, Fessler RG, Anand N, La Marca F, Mummaneni P, ISSG: Analysis of Complications with Staged Surgery for Less Invasive Treatment of Adult Spinal Deformity. SOLAS Annual Meeting, San Diego, CA, May 18–20, 2017



**Eastlack RK**, Fu KM, Nunley P, Kanter A, **Nguyen S**, **Mundis GM**, Park P, La Marca F, Uribe JS, Than K, Okonkwo D, Anand N, Fessler RG, Mummaneni P: Patients Over Age 65 with Postoperative Malalignment Are Not As Disabled As Younger Patients. SOLAS Annual Meeting, San Diego, CA, May 18–20, 2017



**Ledesma J**, **Eastlack RK**, **Nguyen S**, Park P, Mummaneni P, Chou D, Kanter A, Anand N, Nunley P, La Marca F, Fessler RG, Uribe JS, **Mundis GM**, ISSG: Home vs Rehab: Factors That Influence Disposition after MIS Adult Spinal Deformity Surgery? SOLAS Annual Meeting, San Diego, CA, May 18–20, 2017



Protopsaltis TS, Soroceanu A, Tishelman JC, Buckland AJ, **Mundis GM**, Smith JS, Daniels AH, Lenke LG, Kim JH, Klineberg EO, Ames CP, Hart RA, Bess S, Shaffrey CI, Schwab FJ, Lafage V, ISSG: Should Targets for Adult Spinal Deformity Correction Depend on Pelvic Incidence? International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



Lafage R, Schwab FJ, Klineberg EO, Burton DC, Bess S, Kim HJ, Smith JS, Ames CP, Hostin R, Shaffrey CI, **Mundis GM**, Lafage V, ISSG: Risk Factor Analysis for PJK After Adult Spinal Deformity Surgery: A New Simple Scoring System. International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



Bess S, Line BG, Lafage V, Lafage R, Ames CP, Burton DC, Hart RA, Hostin R, O'Brien MF, **Mundis GM**, Gupta MC, Kim HJ, Klineberg EO, Kebaish K, Protopsaltis TS, Passias PG, Schwab FJ, Shaffrey CI, Smith JS, ISSG: Use of Prophylactic Techniques to Prevent Proximal Junctional Failure (PJF) Following Adult Spinal Deformity (ASD) Surgery Does Not Prevent PJF, However Prophylaxis Might Reduce Need for Revision Surgery. International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



Pannu T, Lafage R, Smith JS, Shaffrey CI, **Mundis GM**, Hostin R, Ames CP, Lenke LG, Gupta MC, Kim HJ, Bess S, Gum JL, Schwab FJ, Lafage V, ISSG: Mechanical Loading of the Upper-most Instrumented Vertebra Normative Values and Impact on Proximal Junctional Kyphosis in Adult Spinal Deformity Surgery. International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



## Podium Presentations - Pediatric

Yaszay B, Reighard FG, Doan J, **Pawelek JB**, Farnsworth CL, **Mundis GM**, **Akbarnia BA**: Growing Rods Effect on the 3 Planes of Deformity in Early Onset Scoliosis (Case Discussion). 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016



Repko M, Aydinli U, Grevitt M, Zabka M, Nnadi C, **Akbarnia BA**, Carl A, Crandall DG, Seme S, **Hosseini P**: Preservation of Spine Motion in AIS Patients Using an Innovative Limited Apical Fusion Technique. Eurospine 2016. Berlin, Germany. October 5-7, 2016



Carl A, Crandall DG, **Hosseini P**, Nnadi C, Grevitt MP, Repko M, Zabka M, Aydinli U, Seme SJ, **Akbarnia BA**: Preservation of Spine Motion in The Surgical Treatment of AIS Patients Using an Innovative Apical Fusion Technique: A Two-Year Follow-Up Study. North American Spine Society Annual Meeting, Boston, Massachusetts, October 26-29, 2016



**Pawelek J**, **Akbarnia BA**, **Hosseini P**, **Salari P**, Marks DS, Shah S, Skaggs D, Emans J, Sponseller P, Thompson G, GSSG: Traditional Growing Rod Graduates with Various Diagnoses Have Similar Clinical and Radiographic Outcomes. 10th International Congress on Early Onset Scoliosis, Utrecht, Holland, November 17-18, 2016 and International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



**Hosseini P**, **Akbarnia BA**, Emans J, Sponseller P, **Pawelek J**, **Nguyen S**, Sturm P, GSSG: Construct Levels to Anchored Levels Ratio and Rod Diameter Are Associated with Implant-Related Complications in Traditional Growing Rods. 10th International Congress on Early Onset Scoliosis, Utrecht, Holland, November 17-18, 2016

### ICEOS

McClung A, **Mundis G**, **Pawelek J**, **Kabirian N**, Yaszay B, Sanders J, Sponseller P, Boachie-Adjei O, **Akbarnia BA**, Sucato D, GSSG: Vertebral Column Resection: Indications and Utilization in The EOS Population. 10th International Congress on Early Onset Scoliosis, Utrecht, Holland, November 17-18, 2016

### ICEOS

Skaggs DL, **Akbarnia BA**, **Pawelek J**, Matsumoto H, St. Hilaire T, Sturm PF, Perez-Grueso FJS, Luhmann SJ, Sponseller PD, Smith JT, White KK, Vitale M, CSSG, GSSG: Magnetically-Controlled Growing Rod Patients Have Better HRQOL Measure Compared to Traditional Growing Rod Patients - A Multicenter Pilot Study. International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



Yaszay B, **Nabizadeh N**, Jeffords M, Reighar F, Doan J, Meng, **Pawelek J**, Farnsworth CL, **Mundis GM**, **Akbarnia BA**: Assessment of Spine Growth in Early Onset Scoliosis During Growing Rod Lengthening. 2017 International Meeting on Advanced Spine Techniques. Cape Town, South Africa. July 12-15-2017



## Summary of Poster Exhibits – Adult

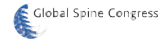
51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016 - 7



North American Spine Society 31st Annual Meeting, Boston, MA, October 26-29, 2016 - 10



Global Spine Congress, Milan, Italy, May 3-6, 2017 - 3



*Behrooz Akbarnia and Greg Mundis attend the Iranian Orthopaedic Association Annual Meeting in Tehran, Iran in October, 2016*

## Summary of Poster Exhibits – Pediatric

51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic, Sept. 21-24, 2016 - 3



2016 Annual Meeting of The Congress of Neurosurgeons, San Diego, California, Sept. 24-28, 2016 - 1



10th International Congress on Early Onset Scoliosis, Utrecht, Holland, November 17-18, 2016 - 1

### ICEOS

EPOS / POSNA Annual Meeting. Barcelona, Spain, May 3-6, 2017 - 1

### POSNA

## Invited Lectures

HARRINGTON LECTURER, 51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic - **Behrooz A. Akbarnia, MD**

51st Annual Meeting of Scoliosis Research Society, Prague, Czech Republic - **Gregory M. Mundis, Jr., MD**

North American Spine Society 31st Annual Meeting, Boston, Massachusetts - **Gregory M. Mundis, Jr., MD**

International Society of The Advancement of Spine Surgery, San Diego, California - **Gregory M. Mundis, Jr., MD**

Scoliosis Research Society WWC, São Conrado, Brazil - **Gregory M. Mundis, Jr., MD**

Iranian Orthopaedic Association Annual Meeting, Tehran, Iran - **Behrooz A. Akbarnia, MD**

Annual Spinal Deformity Symposium, Mexico City, Mexico - **Behrooz A. Akbarnia, MD**

The Emans Spine Symposium 2016. Boston, Massachusetts - **Behrooz A. Akbarnia, MD**

Shriners Hospital, Temple University, Philadelphia, Pennsylvania - **Behrooz A. Akbarnia, MD**

Texas Children's Hospital, Houston, Texas - **Behrooz A. Akbarnia, MD**



Texas Scottish Rite Hospital, Dallas, Texas -  
**Behrooz A. Akbarnia, MD**

Pediatric Spinal Deformity: On the Cutting Edge VI. Coral Gables,  
Florida - **Behrooz A. Akbarnia, MD**

Iranian American Medical Association 24th Annual Medical  
Conference. San Diego, California - **Behrooz A. Akbarnia, MD**

NSpine Main Conference 2017. London, United Kingdom - **Behrooz  
A. Akbarnia, MD**

International Phillip Zorab Symposium 2017. London, United  
Kingdom - **Behrooz A. Akbarnia, MD**

San Diego Spine Foundation Annual Visiting Professorship Meeting.  
La Jolla, California - **Behrooz A. Akbarnia, MD, Ramin Bagheri, MD,  
Maneesh Bawa, MD, Donald Blaskiewicz, MD, James D. Bruffey,  
MD, Robert K. Eastlack, MD, Gregory M. Mundis, Jr., MD**

XII Congresso Catarinense de Ortopedia e Traumatologia, Joinville,  
SC, Brazil - **Gregory M. Mundis, Jr., MD**

2nd Annual International Spinal Deformity Symposium (ISDS),  
Chicago, Illinois - **Gregory M. Mundis, Jr., MD**

University of California, Davis And Shrine of Northern California,  
Sacramento, California - **Gregory M. Mundis, Jr., MD**

Spine: Base to Summit, Beaver Creek, Colorado - **Gregory M.  
Mundis, Jr., MD**

2nd Principles and Techniques of Complex Spinal Reconstruction,  
New York, New York - **Gregory M. Mundis, Jr., MD**

University of Missouri, Columbia, Missouri - **Gregory M. Mundis, Jr., MD**



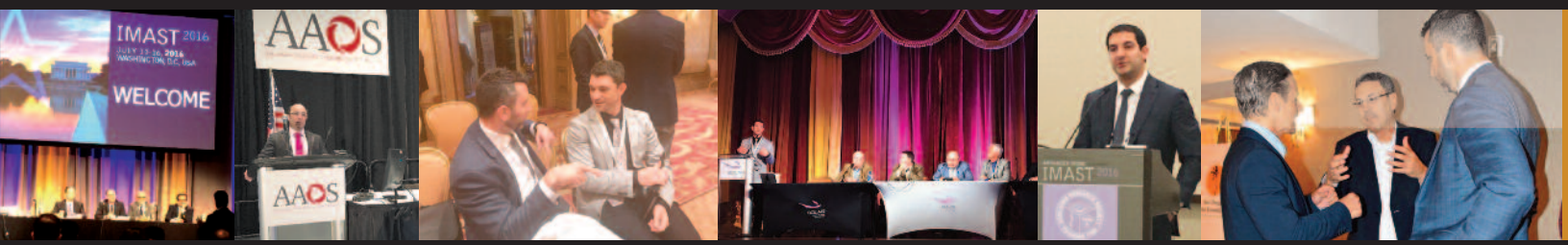
*Greg Mundis presents at podium during the 2016 Scoliosis Research Society Annual Meeting in Prague, Czech Republic*

The 14th Annual Cabo Meeting: State of Spine Surgery Think Tank,  
Los Cabos, Mexico - **Gregory M. Mundis, Jr., MD**

2017 Pediatric Deformity Residents and Fellows Course, San Diego,  
California - **Gregory M. Mundis, Jr., MD**

6th Annual UCSF Techniques in Complex Spine Surgery Course, Las  
Vegas, Nevada - **Robert K. Eastlack, MD**

Christus Muguerza Hospital Alta Especialidad, Monterrey, NJ,  
Mexico - **Pat Kostial, RN, BSN**



## Invited Lectures Sites 2016-2017

